	Application No.	Applicant(s)
Notice of Allowability	10/033,584	YAMAGAMI, KENJI
	Examiner	Art Unit	
	DEBBIE M. LE	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *4/28/06*.

2. ☒ The allowed claim(s) is/are *1-5,10,11 and 19*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *7/3/06* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Mr. Pavel Pogodin on July 3, 2006.

The application has been amended as follows:

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1.   (*Previously Presented*) A method of backup and restore procedure using a first

storage subsystem and second storage subsystem which are connected to each other via a path,

the first storage subsystem connected to a first host, the second storage subsystem connected to a

second host, the method comprising the steps of:

performing a backup procedure comprising the steps of:

providing a first logical volume in the first storage subsystem and a second logical

volume and a third logical volume in the second storage subsystem, the second logical

volume being a copied logical volume of the first logical volume, the first and second

logical volumes being in sync state, the third logical volume being a copied logical

volume of the second logical volume, the second and third logical volumes being in sync

state; and

splitting the second logical volume and the third logical volume by a command

sent by the first storage subsystem; and

performing a restore procedure comprising the steps of:

mounting the third logical volume to the second host,

receiving an indication of an individual file to be restored,

reading, at the second host, the file to be restored from the third volume,

writing, at the second host, the file to the second volume, and

re-synchronizing the first volume with the second volume.

2.   (*Original*) The method of claim 1, wherein

performing a restore procedure further comprises:

recovering a database onto the first volume, if a database application is being run on the

first host.

3.   (*Original*) The method of claim 1, wherein

re-synchronizing the first volume with the second volume

further comprises:

determining from a pending data bitmap data on the second volume to be copied to the

primary volume.

4.   (*Original*) The method of claim 1, further comprising

marking write data arriving after the command in a pending data bitmap,

thereby tracking which data has been modified.

5.   (*Original*) The method of claim 1, wherein

the command comprises identities of one or more files to be restored from the third

volume and written to the second volume, and wherein

reading, at the second host, a file to be restored from the third volume and

writing, at the second host, the file to the second volume,

further comprises:

reading exclusively the files specified in the command from the third volume and writing

the files so read to the second volume.

6-9.   (*Cancelled*)

10.   (*Currently Amended*) A method of restoring a file to a first storage subsystem

connected to a first host from a second storage subsystem connected to a second host, ~~in~~

~~accordance with a request from the first host~~, wherein:

the first storage subsystem and second storage subsystem are connected to each other via

a path, the first storage subsystem stores a first logical volume, the second storage subsystem

stores a second logical volume and a third logical volume, the second logical volume being a

copied logical volume of the first logical volume, the third logical volume being a copied logical

volume of the second logical volume, the first logical volume and the second logical volume

being in a non-sync state, the second and third logical volumes being in sync state,

the method comprising:

mounting the third logical volume to the second host by a command sent by the

first storage subsystem,

receiving indication of an individual file to be restored,

reading, at the second host, the file to be restored from the third volume and

writing, at the second host, the file to the second volume, and

re-synchronizing the first volume with the second volume.

11.   (*Previously Presented*) The method of claim 10, wherein:

mounting the third logical volume to the second host comprises:

responsive to the command from the first storage subsystem, splitting the sync state

between the second logical volume and the third logical volume.

12-18. (*Cancelled*)

19.   (*Previously Presented*) A system, comprising:

a first storage subsystem connected to a first host,

a second storage subsystem connected to a second host, wherein:

the first storage subsystem and the second storage subsystem are connected to each other

via a path, the first storage subsystem stores a first logical volume, the second storage subsystem

stores a second logical volume and a third logical volume, the second logical volume being a

copied logical volume of the first logical volume, the third logical volume being a copied logical

volume of the second logical volume, the first logical volume and the second logical volume

being in a non-sync state, the second and third logical volumes being in sync state, the second

and third logical volumes being operable to break the sync state in response to a command sent

by the first storage subsystem,

the second storage subsystem operative to receive an indication of an individual file to be

restored, mount the third logical volume to the second host responsive to a restore command, the

host operative to read the file to be restored from the third volume and write the files to be

restored to the second volume, and the second storage subsystem operative to establish a sync

state between the first logical volume and the second logical volume.

20.   (*Canceled*)

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Claims 1-5, 10-11, 19 are allowable over the prior art of record because the prior

art of record fails to teach or fairly suggest providing a first logical volume in the first

storage subsystem and a second logical volume and a third logical volume in the second

storage subsystem, the second logical volume being a copied logical volume of the first

logical volume, the first and second logical volumes being in sync state, the third logical

volume being a copied logical volume of the second logical volume, the second and third

logical volumes being in sync state and splitting the second logical volume and the third

logical volume by a command sent by the first storage subsystem, as detailed in claim 1

and similarity to claims 10 and 19.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

The prior art made of record, listed on form PTO-892, and not relied upon, if any,

is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DEBBIE M. LE whose telephone number is (571) 272-

4111. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 6, 2006.

DEBBIE LE
PRIMARY EXAMINER